

JACOBSSON et al.  
Serial No. 10/751,104

Atty Dkt: 4127-11  
Art Unit: 2817

**AMENDMENTS TO THE SPECIFICATION:**

*Please amend the paragraph beginning at page 1, line 30, and continuing to page 2, line 4, as follows:*

There have been several attempts to come to grips with these contradictory but very desirable oscillator qualities. One way to improve the phase noise of an oscillator is to lock two oscillators together. This has traditionally led to more than a doubled required semiconductor area to avoid the resonators of the oscillators ~~to interfere from~~ interfering with each other, and to make room for the additional circuitry required to lock them together. This additional circuitry, apart from the additional oscillator, will increase the total power consumption of the building block. Increased power and increased occupied area are particularly undesirable oscillator building block characteristics for portable, usually battery powered communication equipment, such as cellular phones. There seem to still exist room for improvement on oscillator building blocks.

*Please delete the paragraph beginning at page 7, line 6, and continuing to page 7, line 7.*

*Please amend the paragraph beginning at page 7, line 15, and continuing to page 7, line 21, as follows:*

The resonance frequency, i.e. the frequency with which an LC oscillator will oscillate, its fundamental frequency, is approximately given by  $f_0 = 1/(2 \cdot \pi \cdot (L \cdot C)^{1/2})$ , where  $L$  is the inductance of the resonator and  $C$  is the capacitance of the resonator. In a parallel resonance, as in this example, the impedance of the resonance circuit is high. ~~On~~ On the other hand, if it ~~was were~~ a serial resonance LC oscillator, then resonance would occur when the serial resonance circuit has a low impedance.

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*Please amend the paragraph beginning at page 7, line 23, and continuing to page 8, line 9, as follows:*

The capacitor part C3, C4, of the resonator is illustrated as divided into two capacitors C3 and C4. The inductor L1, L2 of the resonator is also illustrated as divided into two inductors L1 and L2, this which can also be viewed as a single center tapped inductor. Given this, the fundamental frequency of this differential parallel resonance LC oscillator can be approximated by  $f_0 = 1/(2 \cdot \pi \cdot (L1 \cdot C3)^{1/2})$  if  $L1=L2$  and  $C3=C4$ , due to the differential oscillator symmetry. The capacitor part C3, C4, of the resonator is divided into two capacitors to create a fundamental frequency AC-ground point 140. The inductor L1, L2 of the resonator is divided into two inductors L1, L2 to thereby create a for this example a necessary DC biasing point 150 which also acts as a fundamental frequency AC-ground point. The differential LC oscillator further comprises one fundamental frequency AC-ground point 130 and two combined fundamental frequency AC-ground and DC biasing points 110, 120. A fundamental frequency AC-ground point is a point where the fundamental frequency of a differential oscillator is effectively cancelled due to the symmetry of the differential oscillator. A fundamental frequency AC-ground further comprises only odd harmonics, i.e. even multiples of the fundamental frequency, the first harmonic usually being the dominant one.